MEMORANDUM FOR: All NWS Regional Headquarters, Regional Maintenance
                  Specialists, Electronic Systems Analysts, and
                  Electronics Technicians [Engineering Handbook
                  (EHB)-13, Series II distribution]

FROM: W/OPS1 - Acting, Mark Paese

SUBJECT: Transmittal Memorandum for EHB-13 Series II,
                  Issuance 02-08

1.   Material Transmitted:

      Engineering Handbook No. 13 Series II, Advanced Weather
      Interactive Processing System (AWIPS), section 5.1, AWIPS
      System Modification Note 5, AWIPS Linux Communications
      Processor (CP) Replacement and WaveSwitch 100 High Speed Local
      Area Network (LAN) Upgrade.

2.   Summary:

      AWIPS System Modification Note 5 provides AWIPS CP replacement
      and high speed local area network hardware installation
      instructions.

3.   Effect on Other Instructions:

      None. File this note in EHB-13, Series II, Section 5.1.

AWIPS SYSTEM MODIFICATION NOTE 5 (for Electronic Systems Analysts)
Maintenance Logistics & Acquisition Division
W/OPS1: FJZ

SUBJECT	**:**	AWIPS Linux Communications Processor (CP) Replacement and WaveSwitch 100 High Speed Local Area Network (LAN) Upgrade.
PURPOSE	**:**	To provide hardware installation procedures for two Linux CPs and high speed Local Area Network (LAN) equipment.
AUTHORIZATION	**:**	The authority for this patch modification note is Request for Change AA321
EQUIPMENT AFFECTED	**:**	Advanced Weather Interactive Processing System (AWIPS) HP 743RT based Satellite Broadcast Network (SBN) CPs at sites listed in attachment B.
SITES AFFECTED	**:**	See attachment A. For sites with WaveSwitch 100.
PARTS REQUIRED	**:**	Northrop Grumman Information Technology, Inc [(NGIT) formerly PRC] will ship all required parts to the sites. Sites will receive 4 boxes.
MODIFICATION PROCUREMENT	**:**	None
TOOLS REQUIRED	**:**	Standard site tool kit, anti-static mat, and electrostatic discharge (ESD) strap and a long #2 phillips screwdriver.
TEST EQUIPMENT REQUIRED	**:**	None
EFFECT ON OTHER: INSTRUCTIONS		None. File this note in EHB-13, Series II, section 5.1.
VERIFICATION STATEMENT	**:**	This modification was tested at the National Weather Service Headquarters NMTW, Silver Spring, MD (SLVM2).
TIME REQUIRED		6 hours
TECHNICAL SUPPORT	**:**	For questions or problems regarding these installation instructions please contact Franz J.G. Zichy at 301-713-1833 x128. For any other questions, please contact the NCF at 301-713-9344**.**

GENERAL

The increase in throughput of AWIPS operational data, has identified performance problems in some of older AWIPS components. The CPs are recognized as one of the limiting factors and are replaced by Dell 2550, 2U high rack mounted servers. Because the Dell 2550 server is deeper than the current CP, minor repositioning of rack components is necessary. The CP characteristics are:

Hardware:
- Pentium III, clocked at 1 Ghz
- 256MB RAM
- 4 x 18 GB SCSI Hard Drive in RAID-0 configuration (disk striping)
- on-board SCSI controller
- 3.5" floppy drive
- 24x IDE CD-ROM
- 19" Rack mount kit
- single 10/100BaseT NIC
- dual 330W power supplies
- SBE Inc. wanXL400 PCI EIA-530 adapter w/EIA 530 cable

The HSL components include:
- PTI 344 High Speed Serial 4 port I/O board and drivers
- 100 Mbps PlainTree WaveSwitch LAN Module
- 10/100/1000 Mbps HP Procurve Ethernet LAN switch

Service: The CP hardware will be covered by a 90 Linuxcare Service agreement, providing 4 hour response (5x10) parts and labor, and on-site hardware maintenance for 3 years.

Software: NGIT will install the disk image containing Red Hat operating system (OS) version 7.0, device drivers, and AWIPS specific user accounts and disk partitions. The CP runs the AWIPS Communications Processor software. The disk image described above will support the scripted installation of version 5.1.2 of the AWIPS CP software.

PROCEDURE

The CP hardware kit is sent by NGIT in 4 boxes. The boxes will contain two Dell 2550, 2U high rack mounted servers, two 10/100 Switch2, two Waveswitch 100Base-TX modules, and cables, labels, and other supporting supplies. The LAN upgrade and CP installations are performed by the site ESA using the procedures outlined below.

> **NOTE:**
>
> 1. Only sites with Waveswitch 100 should use this procedure. Sites with Waveswitch 1216, refer to AWIPS Modification Note 4.
>
> 2. If a site receives the Comms Processors field modification kit (FMK) with only one Waveswitch 1216 100Base-TX card, install the card in Waveswitch 1 and wait for the second 100Base-TX card to arrive from NGIT in approximately 2 months. Configure the second Waveswitch as follows: Connect the LA1AW44 (NWS5114) cable from port 24 on the 2nd HP Procurve to any available 10Base-T port on the 2nd Waveswitch.
>
> 3. Site replacing Waveswitch 100 with Waveswitch 1216 may receive a Waveswitch 1216 without a 100Base-TX card. Replace the old Waveswitch 100 (Hub1) with the Waveswitch 1216 that has the installed 100Base-TX card. Install the second Waveswitch without the 100Base-TX card as Hub2. NGIT will send the second 100Base-TX card in approximately 2 months.

A. AWIPS Rack 1 Preparation Procedure

To minimize data loss, the HP communications processors are removed from the rack, placed on a table, but are not disconnected. Removal of the rack doors may facilitate maintenance. **Call the NCF before performing these instructions.** Read each step **thoroughly** before performing a procedure. Follow the procedures outlined below.

1. Prepare a table with a surface and sufficient height to place the 2 communications processors (CP).

2. From the back of the SB rack, identify the CP cables and cut the tie wraps to allow adequate cable length when the CPs are pulled out of the rack.

3. From the front of the SB rack, use 2 people to carefully pull CP2 out, release rail locks and pull the CP off the rails on to table (figure 1).

Figure 1

4. Repeat for CP1 and place it on the table on top of CP2.

5. Remove the CPSBN slide rails from the rack.

6. Remove the power strips (and mounting hardware) from the rack and lay them aside. Except for the rack fan, **do not** unplug any of the devices from the power strip.
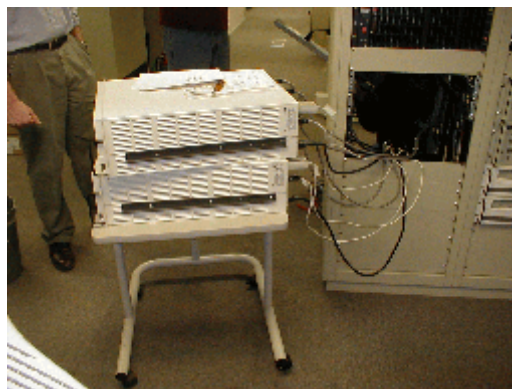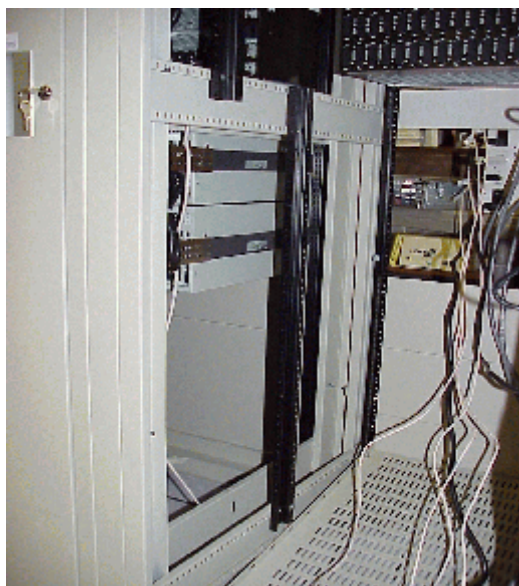
7. Install horizontal power strip #1, so that the receptacles face toward the rear of the rack, the top of the power strip is aligned with the top of the **upper rear vertical mounting rails**, and the power switch is on the right (figure 2). **RFCs may have to install the power strip directly below the 2nd router slide rail.** Plug Demod1, Demod2, (except for collocated sites) and the rack fan into receptacle one, two, and six (counting from left to right), run the power strip cord down the right side of the rack and plug into the floor receptacle (data loss of 1 minute maximum).

Figure 2

8. Remove the mounting hardware that attaches the lower shelf to the rear vertical rack rails. Do not remove the front part of the shelf. The capture nut and rack screws will be reused to reattach the shelf to the rear vertical rail..

9. Remove the lower rear vertical mounting rails from the rack (figure 3). Tilt the back end of the shelf down to gain better access to bottom part of the rear rails.

10. Relocate the rack rail capture nuts forward to the 27th hole (approximately 14 inches) from the rear of the rack, along the center and bottom side braces (figure 4).

11. Reinstall the lower rear vertical mounting rails in the new location . Insure the rails are at the forward most limit of the adjustment slots. The rail must be at its forward most limit to provide clearance for the alignment pin on the new CPSBN slide rails.

Figure 3

Figure 4

12. Install horizontal power strip #2 to the lower vertical mounting rails with the power strip's top mounting holes aligned with the **27ᵗʰ hole (approximately 16-inches)** from the bottom of the rail and with the power switch on the right (figure 5).

14. Install the last power strip (#3) below power strip #2, leaving 3 holes (1.75-inches) between the bottom of #2 and the top of #3 (figure 5).

15. Using the capture nut and rack screws removed earlier, reattach the lower shelf to the rear vertical rack rails. The capture nut will be located over either the 3rd or the 11th hole from the bottom of the vertical rail depending on the current shelf position.

Figure 5

16. Run the power cords of both power strips down the right side of the rack. Plug power strip #1 and power strip #2 into the same circuit used by the left side vertical power strip. Plug power strip #3 into the circuit used by the right side vertical power strip.
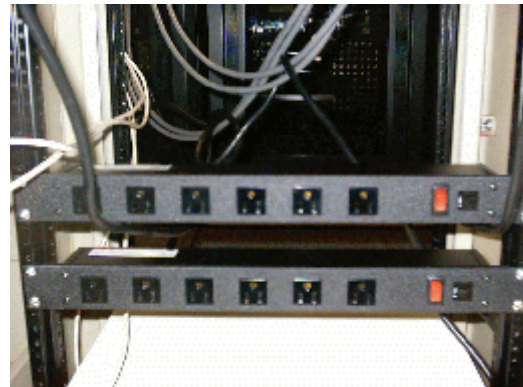
This completes the AWIPS SB rack preparation procedure.

B   New CPSBN Equipment Installation Procedure

1. Measuring from the bottom of the SB rack (figure 6) measure 26 ½ inches up (figure 7) and install the CPSBN1 slide rail. Note difference between left and right rails (figure 6). Right rails are pictured in figure 6. Insert the alignment pins in the front and rear mounting platesl (using 2 people may facilitate installation). Secure the slide rails to the vertical rail into the top and bottom holes of the rail (figure 9).

Figure 6
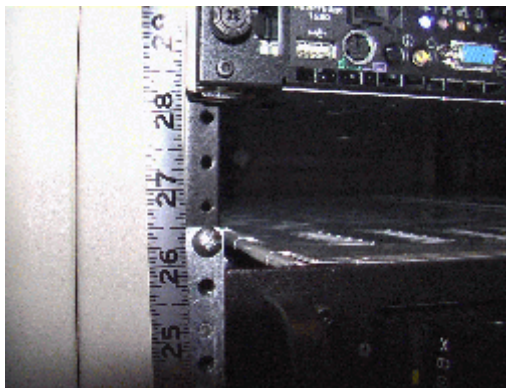
Figure 7

Figure 8

2. Install the new CPSBN2 slide rail kit directly below the CPSBN1 slide rail kit (figure 8).

Figure 9

3. Fully extend the CPSBN2 slide rails insuring that they securely latch in the extended position. Ensure the old CPSBN2 cables run underneath the new CPSBN2 slide rails.

4. Using 2 people, lift the new CPSBN2, and beginning with the rear-most slots, slide the shoulder nuts (on the side of the CP chassis) into the rails slots (figure 10).

5. After all the shoulder nuts are in their appropriate slots and the CPSBN is sitting on the mounting rails, push rearward on the unit to latch it into the rails.

Figure 10

6. Release the rail lock mechanisms by pushing up on the green levers on the outer sides of the slide rails (figure 11), carefully slide the CPSBN chassis into the rack, (cables in rear of rack may obstruct CPs from being pushed fully into the rack), and secure it with the fasteners on the lower corners of the front panel.

7. Repeat Steps 3 through 6 for CPSBN1.

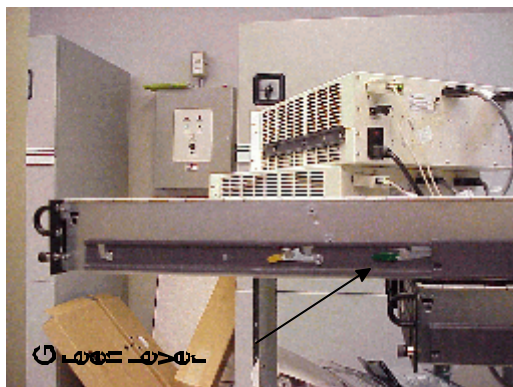This completes the new CPSBN equipment installation procedure.

Figure 11

C   High-Speed LAN Equipment Installation Procedure

1. From the back of the DS1 rack, release the power strips from their retaining clips and carefully move them aside for access to the HUB mounting screws. These power strips will not be replaced.

> **NOTE:**   Inform the operations staff that even numbered X-terminals and color graphics printer will be taken off the LAN.

2. Disconnect the LAN cables, monitor and control (M&C) cable from the 12-Port Hub2 (HUB2).

3. Gain access to the power cable by removing the rack panel from the front of the DS1 rack (figure 11). Remove the power cord from HUB2.

4. While one person supports HUB2, remove HUB2 from the rack and set it aside.

5. Install the mounting brackets on both sides of the new 10/100 Switch 2 (figure 12).

Figure 11

6. Before sliding the new 10/100 Switch2 (marked as HSL/SW2 *SID*) into the rack, plug the power cord into the front of the unit.

7. Install the 10/100 Switch 2 in the space vacated by HUB2 and secure it with rack screws from the old HUB2 in the 31st and 33rd hole from the top of the rear vertical mounting rails. Use the rack screws from the old HUB2.

8. Connect the LAN cables, M&C cable and power cord removed from HUB2 to their designated port on 10/100 Switch2. Remove the Linux workstation LAN cables from LSW2 and plug them into port 12 and on the 10/100 Switch2.
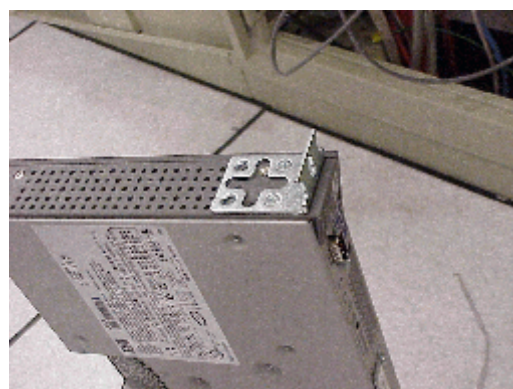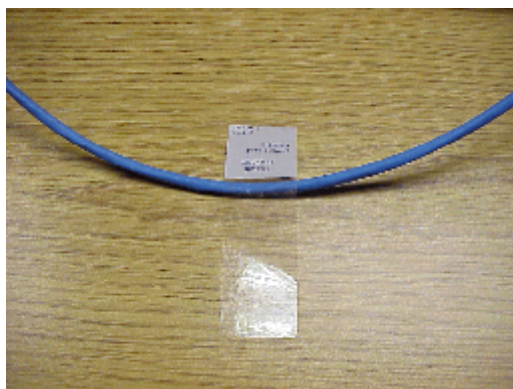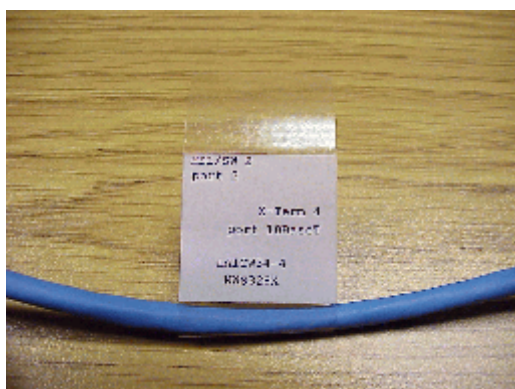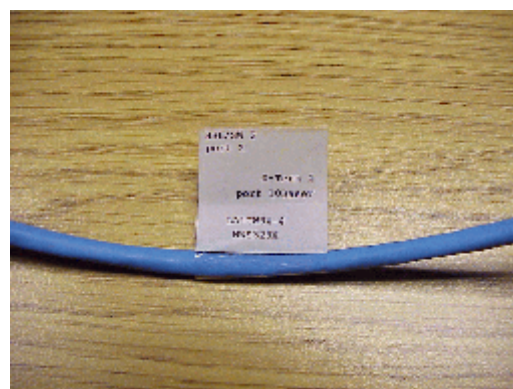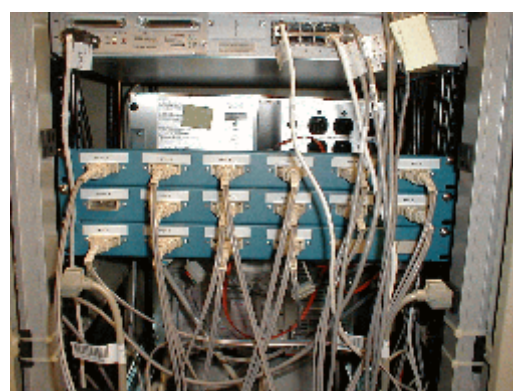

Figure 12

9. Re-label the LAN cables removed from HUB2 with the appropriate labels (provided with installation kit) to reflect the new 10/100 Switch designator (more labels are provided than are required). Follow the procedure detailed below:

    a. Place the label on the cable so that cable intersects the label's white and clear part (figure 13).

    b. Fold the clear part up (figure 14) and fold the remaining clear part down over the label's white part (figure15).

Figure 13

Figure 14

Figure 15

10. Patch LSW2 out of the FDDI ring by quickly removing DS2A and plugging LSW2A into DS2A. Leave the DS2A plug dangling (figure 16).

11. From the back of the DS1 rack, completely remove the LAN cables from Port 14 and Port 15 and set them aside with the 12-Port Hub.

12. Disconnect the LAN cables, M&C cable, and power cord from LAN Switch2 (LSW2).

13. While one person holds the LSW2 from the front, remove LSW2 from the rack and place it on an anti-static work surface.

Figure 16

14. Install a Waveswitch 100Base-TX module in LSW2 using the following procedure.

     a. Remove the three screws at the rear of the unit that secure the top cover.

     b. Slide the top cover rearward until the front edge is clear of the front panel.

     c. Lift the top cover off and set it aside.

     d. Put on the ESD strap and remove the three retaining clips on the right side of the chassis by loosening the three retaining nuts and lifting up on the clips (figure 17) .

Figure 17

     e. Remove the filler plate from the empty slot by pulling the top edge inward and lifting it out of the chassis (figure 18).

     f. Align the 100Base-TX module over the slot and angle the front end of the module into the chassis.

     g. Insert the top of the module faceplate under the top lip of the front panel and align the bottom edge of the faceplate over the module support bracket on the front panel.

Figure 18

     h. Lower the rear of the module into the chassis until it is level and the module's connector is aligned with the chassis' connector.

     i. Gently push on the top of the module until it is fully seated in the chassis (figure 19).

     j. Reinstall the retaining clips removed in step 9d, insuring that the module is properly aligned and fully seated.

     k. Replace the top cover.
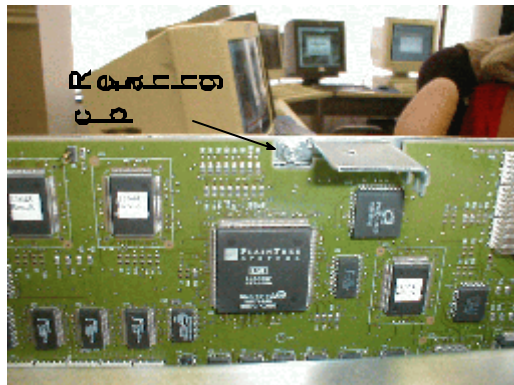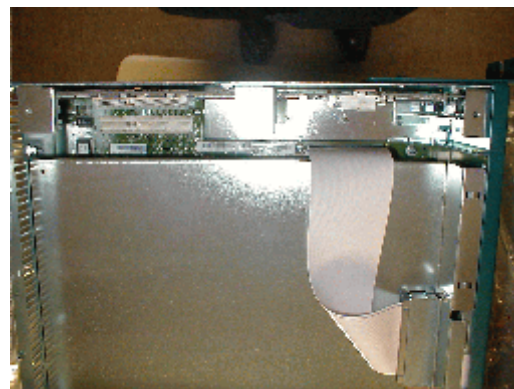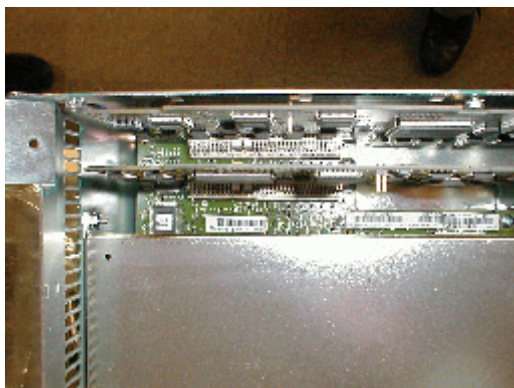

Figure 19

15. Return LSW2 to the rack and reconnect the cables removed in step 12.

16. Patch LSW2 back into the FDDI ring by quickly removing it from the DS2A socket and plugging it back into LSW2A, then return the dangling connector to DS2A.

17. Verify that the Spanning Tree Protocol is enabled on the ProCurve 2524 Switch.

   a. Verify the Xyplex communication's port is set for Serial (2)/Serial (1), and the Xyplex console is set for EM100 mode by pressing **<user system>** key, **<F8>**, **<F5>**, tab to `Datacom/Ext Dev` press **<F2>** to toggle `Serial (2)/Serial (1)` tab to `Term Mode`, press **<F2>** to toggle `EM100` and press **<F1>** to save configuration.

   b. Connect the console to Hub3 and press **<Enter>** twice to return a prompt.

   c. At the `Hub3-<site>#` prompt, type **show spanning-tree** then press **<Enter>**.

   d. The top line should read: `STP Enabled : Yes.` If Spanning Tree is not enabled, contact the NCF for assistance.

NOTE: Spanning Tree must be enabled for the switch to function properly on the AWIPS LAN

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   e. Press **<ctrl-c>** to return to the `Hub3-<site>#` prompt then type **lo**, press **<Enter>** and answer **yes** to the `Do you want to log out` question.

   f. Leave the console in the EM100 mode until Step 28e is completed

18. Install the new LA1AW44 (NWS5114) between the 100Base-TX port on LSW2 and port 24 on 10/100 Switch2 (figure 20).

NOTE: Notify the operations staff to log back in to the even number X-terminals and that the odd number X-terminals and text printer will be taken off the LAN.

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19. Move up to 12-Port Hub1 (HUB1) and disconnect the LAN cables, M&C cable and power cord from HUB1.

20. While one person supports HUB1, remove HUB1 from the rack and set it aside.

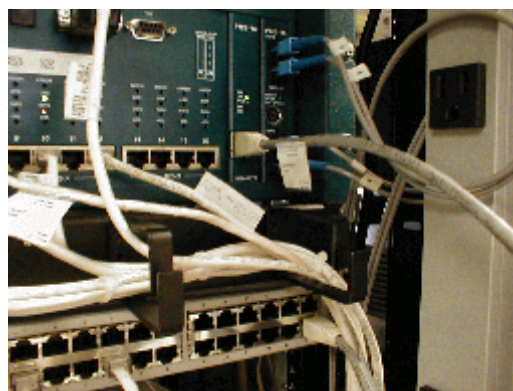21. Install the mounting brackets on both sides of the new 10/100 Switch 1 as shown in figure 12.

Figure 20

22.   Install 10/100 Switch1 in the space vacated by HUB1 and secure it with rack screws in the 13th and 15th hole from the top of the rear vertical mounting rails. Use the rack screws from the old HUB1.

23.   Connect the LAN cables, M&C cable and power cord removed from HUB1 to their designated port on 10/100 Switch1. Remove the Linux workstation LAN cables from LSW1 and plug them into port 12 and on the 10/100 Switch1.

24.   Re-label the LAN cables removed from HUB1 with the appropriate labels (provided with installation kit) to reflect the new 10/100 Switch designator (more labels are provided than are required). Follow the labeling procedure outlined in section C step 9a and 9b

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Note: If sites receive only one 100Base-TX card, do not perform steps 25 through 33. Install the LA1AW44 (NWS5114) cable between any available 10Base-T port on LSW1 and port 24 on 10/100 Switch1.

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25.   Patch LAN Switch1 (LSW1) out of the FDDI ring by quickly removing DS1A and plugging LSW1A into DS1A. Leave the DS1A plug dangling (figure 16).

26.   Disconnect the LAN cables, M&C cable, and power cord from LSW1.

27.   Completely remove the LAN cables from Port 14 and Port 15 and set them aside with the 12-Port Hub.

28.   While one person holds the LSW1 from the front of the DS1 rack, remove LSW1 from the rack and place it on an anti-static work surface.

29.   Install the Waveswitch 100Base-TX module in LSW1 using the procedure outlined in section C steps 14a through 14k.

30.   Return LSW1 to the rack and reconnect the cables removed in Step 24.

31.   Patch LSW1 back into the FDDI ring by quickly removing it from the DS1A socket and plugging it back into LSW1A, then return the dangling connector to DS1A.

32.   Verify that the Spanning Tree Protocol has been enabled on the ProCurve 2524 Switch.

    a.   Verify the Xyplex communication's port is set for Serial (2)/Serial (1), and the Xyplex console is set for EM100 mode by pressing **<user system>** key, **<F8>**, **<F5>**, tab to `Datacom/Ext Dev` press **<F2>** to toggle `Serial (2)/Serial (1)` tab to `Term Mode`, press **<F2>** to toggle `EM100` and press **<F1>** to save configuration.

    b.   Connect the console to Hub3 and press **<Enter>** twice to return a prompt.

c. At the `Hub3-<site>#` prompt, type **`show spanning-tree`** then press
<Enter>.

d. The top line should read: `STP Enabled : Yes.` If Spanning Tree is not
enabled, contact the NCF for assistance.

NOTE: Spanning Tree must be enabled for the switch to function properly on the AWIPS
LAN]

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e. Press **<ctrl-c>** to return to the `Hub4-<site>#` prompt then type **`lo`**, press
<Enter> and answer **`yes`** to the `Do you want to log out` question.

f.   Return the console to the HP mode.

33.   Install the new LA1AW44 (NWS5114) between the 100Base-TX port on LSW1 and port
24 on 10/100 Switch1 (figure 20).

NOTE: Notify the operations staff to log back in to the odd numbered X-terminals.

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34.   Replace the power strips removed in section C step 1 back into their retaining clips.

This completes the high-speed LAN equipment installation procedure.

D.   CPSBN to High-Speed LAN and AWIPS Cabling Procedure

> **NOTE:**   Reference exhibit 1 on page 18 when completing steps 3 through 12.

1.   Stack the 10/100BaseT 4-Port Hubs (SP/SW1 & 2) on the bottom shelf of the SB rack (figure 21).

2.   Install the LA1CW110, LA1CW111, LA1CW114 and LA1CW115 cables (NWS5113) between the SB rack and the DS1 rack.

3.   Connect the LA1CW110, LA1CW111, LA1CW114 and LA1CW115 cables (NWS5113) to the appropriate ports on the 10/100 switches in the DS1 rack.

Figure 21

4.   Connect the other end of the LA1CW110, LA1CW111, LA1CW114 and LA1CW115 cables (NWS5113) to the appropriate ports on the 10/100 Hubs in the SB rack.

5.   Connect the LA1CW8 cable (NWS5115) between port 4 of **SP/SW1 and** the 10/100 LAN interface port on CPSBN1 (figure 22).

6.   Connect the LA1CW7 cable (NWS5115) between port 4 of **SP/SW2 and** the 10/100 LAN interface port on CPSBN2.

Figure 22

7.   In the event the LAN cables from the SP/SW1 & 2, to HUB1 & 2 are mismarked, use the table below for reference.

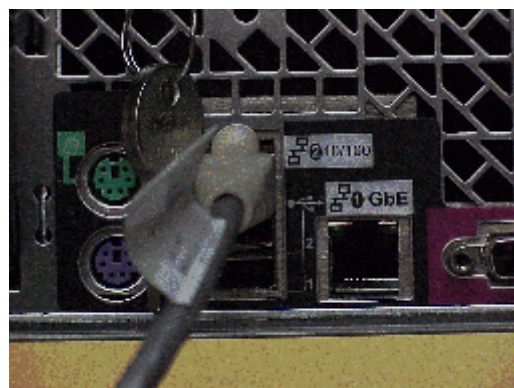| SB Rack		Cable Number	DS1 Rack	
SP/SW 1	Port 1	W110	HSL/SW 1	Port 19
SP/SW 2	Port 1	W111	HSL/SW 1	Port 20
SP/SW 1	Port 2	W114	HSL/SW 2	Port 19
SP/SW 2	Port 2	W115	HSL/SW 2	Port 20

8. On the back of both new CPSBNs remove the strain relief bracket (figure 23).

9. Locate the 'Y' cables (wire numbers SB1AW3 & 4 and wire numbers SB1AW5 & 8) and connect the wide SCSI connector to the back of the CPSBN2's SBE interface card (figure 24).

10. Connect the other 'Y' cables (wire numbers SB1AW1 & 2 and wire numbers SB1AW7 & 6) to the wide SCSI connector on the back of CPSBN1's SBE interface card.

Figure 23

10. Replace the strain relief bracket over the 'Y' cables on both CPSBNs (figure 25).

11. Disconnect the M&C cable (DB9), wire number LA1CW10 from the old CPSBN2, and connect it to Serial1 port on the new CPSBN2 (figure 26).

Figure 24

Figure 25
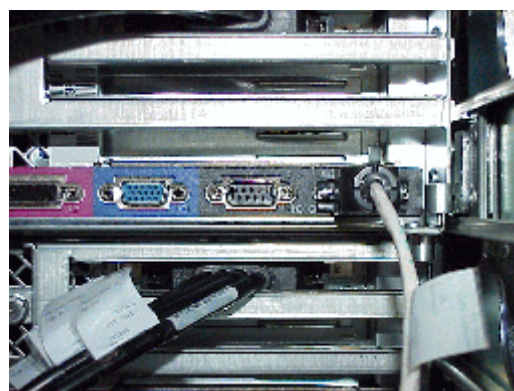
Figure 26

12.   Disconnect the M&C cable (DB9), wire number LA1CW9 from the old CPSBN1, and connect it to Serial1 port on the new CPSBN1.

13.   Plug CPSBN1 into receptacle one (counting from left to right) of power strip #2.

14.   Plug CPSBN2 into receptacle one of power strip #3.

15.   Plug SP/SW1 into receptacle three on power strip #2.

16.   Plug SP/SW2 into receptacle three on power strip #3.

17.   Unplug Switch Panel 1 (SwPnl1) from the old power strip and quickly plug it into receptacle six (counting from left to right) of power strip #3. Data loss less than 1 minute.

This completes the CPSBN to high-speed LAN and AWIPS cabling procedure.

E.   CPSBN Installation Completion Procedure

1.   Establish a console connection via the xyplex console.

   a.   Verify the Xyplex communication's port is set for Serial (2)/Serial (1), and the Xyplex console is set for EM100 mode by pressing **<user system>** key, **<F8>**, **<F5>**, tab to `Datacom/Ext Dev` press **<F2>** to toggle `Serial (2)/Serial (1)` tab to `Term Mode`, press **<F2>** to toggle `EM100` and press **<F1>** to save configuration.

   b.   From the menu, select `4 Com Processors`, press **<Enter>**, select `SBP Downlink 1`, press **<Enter>**.

2.   Power up CPSBN1 via the CPs front panel power switch (figure 27) and observe the boot process on the xyplex console.

+---+
| **NOTE:** The boot process takes approximately 5 |
| minutes. No user intervention is required. |
+---+

3.   Verify the LEDs on the front panel are green.

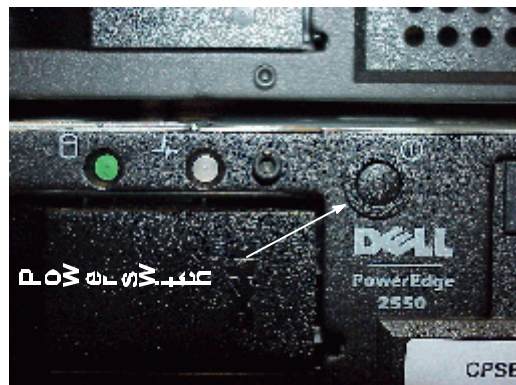4.   Repeat steps 1 through 3 for CPSBN2. For step 1b, select `SBP Downlink 2`.

Figure 27

5. From the back of the CPSBNs, locate and plug the following wires into SwPnl1 while removing the old CPSBNs to SwPnl1 connections (data loss of less than 30 secnds for each connection):

   a. Connect wire number SB1AW1 to SwPnl1 Eqpt port A-1.

   b. Connect wire number SB1AW2 to SwPnl1 Eqpt port B-2.

   c. Connect wire number SB1AW6 to SwPnl1 Eqpt port B-3.

   d. Connect wire number SB1AW7 to SwPnl1 Eqpt port A-16 (for future use).

   e. Connect wire number SB1AW3 to SwPnl1 Eqpt port A-2.

   f. Connect wire number SB1AW4 to SwPnl1 Eqpt port B-1.

   g. Connect wire number SB1AW5 to SwPnl1 Eqpt port A-3.

   h. Connect wire number SB1AW8 to SwPnl1 Eqpt port B-16 (for future use).

6. Remove the LAN cables from the old CPSBNs.

7. At a workstation, verify the CPs display the proper time. To change the time, perform the following:

   a. Ensure the workstation's terminal emulation is set to vt100. If it is not, in a telnet window type:

      linux export TERM = vt100

   b. The log in to the CPs as **root** using the password **linuxcp!**

   c. Type the following commmands:

      cd /awips/data
      linuxconf

   d. Once the Linux configuration utility appears, arrow down to the date and time option and hit **<Enter>**.

   e. Arrow down to Hour and/or Minute and change the time.

   f. Press the **<Tab>** key to Accept at the bottom of the screen and hit **<Enter>**.

   g. Press **<Tab>** to Quit at the bottom of the screen and hit **<Enter>**.

    h. Type **date** to confirm the change.

> **NOTE:**   It is recommended sites change the CPs' password and inform the NCF of the
> new password.

7. At a workstation, verify current satellite data is processed through and to the data
servers.

    a. Open one Telnet session and log in to the CPSBN1 as **root**.

    b. Start a log file by typing:

       `tail -f /data/co/logs/Products/cpsbn1-<sid>/sbn_proc0/mcProduct.log`

    c. Observe the data acquisition for GOES over the NWSTG.

    d. Open a second Telnet session, log in to ds1 as user **fxa**, and type

       `logs; tail -f Sat*`

    e. Observe the satellite data acquisition and processing from the NWSTG.

    f. If no problems are observed, stop the log files and exit the Telnet sessions.

8. Back in the equipment room, disconnect and completely remove the, data cables, and
power cords from the old CPSBN1 and CPSBN2.

9. Remove the old CPSBNs and set them aside.

10. Unplug the remaining devices from the old power strips and plug them into any of the
remaining receptacles of one of the new power strips. Completely remove the old
power strips.

11. "Dress" the CPSBN1 and CPSBN2 cables and power cords in a manner that will allow
full and unrestricted extension of the chassis on the slide rails and allow access to the
CPSBNs internal components (figure 28 and 29).

12. Install the 7-inch blank panel in the space vacated by the old CPSBN2 chassis.

13. Inform the NCF that the CP installation is complete.

14. To verify if CPSBN2 is functioning properly, perform a failover using the procedures in
section F.
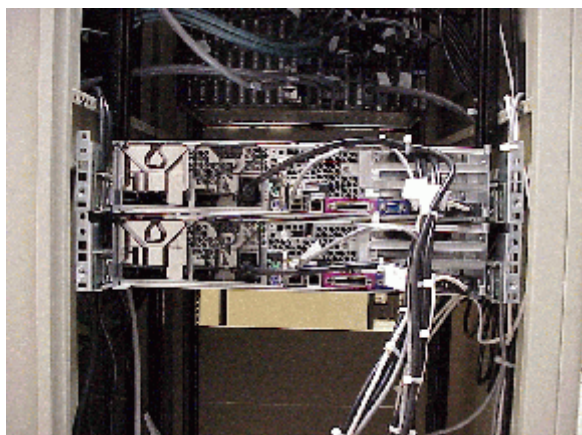
Figure 28
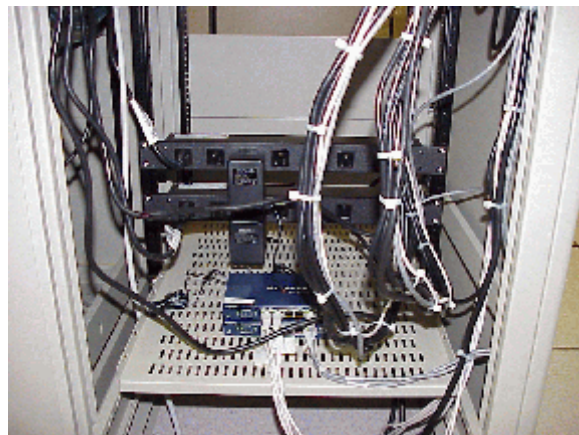
Figure 29

This completes the CPSBN installation procedure.

F.   CPSBN2 Failover Procedure

To proceed with the failover, disable the GOES data acquisition on CPSBN2. The NCF will note the alarm and call the site. If after 5 minutes the NCF does not call, the site should call the NCF. Once in contact with the NCF, the site should request the NCF perform a failover. Perform the procedure below to disable the GOES data acquisition on CPSBN2.

1. Click right mouse button and select **telnet**. Log in to ds1 as **root** then log in to CPSBN2.

2. Shut down CPSBN2 by typing:

    shutdown -h now

3. Start a log file by typing:

    tail -f /data/co/logs/Products/cpsbn1-<sid>/sbn_proc1/mcProduct.log

4. Observe the data acquisition for GOES over the NWSTG CP.

5. Open a second Telnet session, log in to ds1 as user **fxa**, and type

    logs; tail -f Sat*

6. Once in contact with the NCF, request a failover be performed.

7. Verify CPSBN1 is functioning properly and the data are acquired by DS1.

8. If satisfied with CPSBN1's performance, request the NCF to swap back the CPSBN2.

This completes the CP failover procedure.

G. Enabling Linux Monitoring Preocedure

In order for the NCF to monitor the new Linux devices through ITO, perform the following steps.

1. Log in to each CP as user **root** and type:

    /sbin/chkconfig –level 2345 snmpd on
    /etc/init.d/snmpd start

2. Ask the NCF to ftp an updated ITO script to a directory on as1 and as2.

3. Contact the NCF em server administrator to update information concerning Linux
    devices within the em server at the NCF
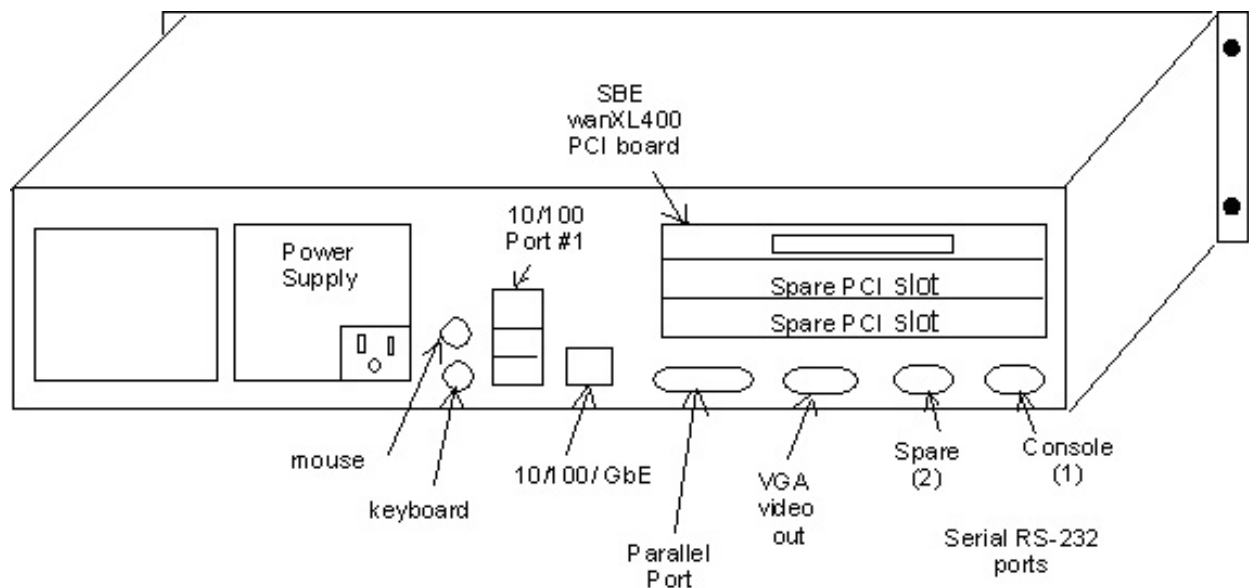
This completes enabling Linux monitoring procedure.

EXHIBIT 1 Linux SBN CP Rear View

REPORTING MODIFICATION

Report the completed modification on a WS Form A-26, Maintenance Record, according to the instructions in Engineering Handbook 4 (EHB-4), Engineering Management Reporting System (EMRS), Part 2, and Appendix I. A sample WS Form A-26 is attached. As an additional guide, use the information in the table below.

Block #	Block Type	Information
5	Description	Install two Linux CPs and high speed Local Area Network (LAN) equipment I.A.W. AWIPS Modification Note 5
7	Equipment Code	AWIPS
8	Serial Number	001
15	Comments	Serial number LINUX CP 1: _____ Serial number LINUX CP 2: _____
17a	Mod. No.	5

Mark Paese
Acting Chief, Maintenance, Logistics, and Acquisition Division

Attachment A - RFC 10/100 Switch Port Assignments
Attachment B - Affected Site List
Attachment C - WS Form A-26 Sample

Attachment A

Port	10/100 Switch1	10/100 Switch2
1	xterm1	xterm2
2	xterm3	xterm4
3	xterm5	xterm6
4	xterm7	xterm8
5	xterm9	xterm10
6	xterm11	xterm12
7		
8		
9		
10	text printer	color printer
11		high-speed printer
12	lx1	lx2
13		
14		
15		
16		
17		
18		
19	linux cpsbn1	linux cpsbn1
20	linux cpsbn2	linux cpsbn2
21	linux px1	linux px1
22	linux px2	linux px2
23		
24	lsw1 100BaseTx	lsw2 100BaseTx

Attachment B

Site	SID	Region
WFO Portland, OR	PQR	Western
WFO Pendleton, OR	PDT	Western
WFO Salt Lake City, UT	VHW	Western
WFO Pleasant Hill, MO	KRF	Central
WFO Wilmington, OH	ILN	Eastern
WFO Taunton, MA	BOX	Eastern
WFO Fort Worth, TX	EHU	Southern
WFO Tampa Bay, FL	TBW	Southern
WFO Lake Charles, LA	LCH	Southern
RFC Anchorage, AK	ACR	Alaskan
Norman, OK	SPCW	Southern
Norman, OK	SPCR	Southern
WFO Des Moines, IA	DMX	Central
WFO St Louis, MO	LSX	Central

Attachment C

WS FORM A-26 (4/94)	WS FORM A-26 (4/94) **U.S. DEPARTMENT OF COMMERCE** NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE **ENGINEERING MANAGEMENT REPORTING SYSTEM** MAINTENANCE RECORD	Document Number **G 49978**

General Information	**1.** Open Date **4** / **30** / **02**	Time **0900**	**2.** Initials **JMM**	**3.** Response Priority (check one) ○ Immediate ○ Low ○ Routine ⊠ Not Applicable	**4.** Close Date **4** / **30** / **02**	Time **1400**

5. Description	**Set up and installation of two AWIPS Linux Communication Processors (CPs) and waveswitch 100 High Speed LAN upgrade.**

Equipment Information	**6.** Station ID **PHL**	**7.** Equipment Code **AWIPS**	**8.** Serial Number **001**	**9.** TM **M**	**10.** AT **M**	**11.** How Mal. **999**

12. *EQUIPMENT OPERATIONAL STATUS TIMES*	**a.** Fully Operational	**b.** Logistics Delay	Partly Operational	**c.** All Other	**d.** Logistics Delay	Not Operational	**e.** All Other

13. *Parts Failure Information* | **14.** *Work Load Information*

Block #	a. ASN	b. NSN	c. TM	d. AT	e. How Mal.	f. Qty.	g. Maint. Hrs.	Type	Staff Hrs.
1								**a.** Routine	
2								**b.** Non-routine	
3								**c.** Travel	
4								**d.** Misc.	**5:00**
5								**e.** Overtime	

Miscellaneous Information	**15.** Maintenance Comments **Installed AWIPS Linux CP and upgraded Waveswitch 100 LAN equipment I.A.W. AWIPS Mod Note 5.**	**16.** Initials **JMM**

17. *SPECIAL PURPOSE REPORTING*	**a.** Mod. No. **5**	**b.** Mod./Act./Deact. Date **4/30/02**	**c.**	**d.**	**e.**

18. *CONFIGURATION MGMT. REPORTING* (use as directed)	ASN	Vendor Part Number (New Part)	Serial Number (Old Part)	Serial Number (New Part)